Chapter 137: EMISSION STATEMENTS

SUMMARY: This regulation establishes requirements for the reporting of pollutant emissions from stationary sources of air pollution.

1. Applicability

- **A.** This regulation shall be effective in all ambient air quality control regions in the State of Maine.
- **B.** This regulation applies to all stationary sources which emit, or have the potential are licensed to emit into the ambient air, the following air pollutants at or above the minimum required reporting level:

(1) Carbon monoxide (CO)	100- <u>75</u> tpy
(2) Sulfur dioxide (SO_2)	40 tpy
(3) Volatile organic compounds (VOC)	25 tpy
(4) Nitrogen oxides (NOx)	25 tpy
(5) Fine Particulate Matter (PM ₁₀)	15 tpy
(6) Fine Particulate Matter (PM _{2.5})	<u>15 tpy</u>
(6) (7) Lead (Pb)	0.1 tpy
(8) Ammonia (NH ₃)	<u>50 tpy</u>

- C. This regulation applies to those stationary sources that emit the following greenhouse gases and are required to report their emissions pursuant to Section 1(B) of this Chapter:
 - (1) Carbon Dioxide (CO₂)
 - (2) Methane (CH₄)
 - (3) Nitrous Oxide (N₂O)
 - (4) Hydrofluorocarbons (HFCs)
 - (5) Perfluorocarbons (PFCs)
 - (6) Sulfur Hexafluoride (SF₆)
- **D.** This regulation applies to the following stationary sources of greenhouse gases:
 - (1) all electrical power transmission distribution plants that emit any amount of sulfur hexafluoride (SF₆).

- (2) all greenhouse gas manufacturing facilities that emit any amount of greenhouse gases.
- **E.** This regulation applies to all stationary sources which:

known,

- (a) either use, process, or manufacture any <u>chemical or</u> compound at or above the threshold listed in Appendix A, or—where actual emissions are
 - (b) emit to the air any <u>chemical or</u> compound at or above the threshold listed in Appendix A; or

NOTE: Manufacture includes compounds coincidentally manufactured such as byproducts of a process or combustion.

- (2) release to Publicly Owned Treatment Works (POTW)s any <u>chemical or</u> compound at or above the threshold listed in Appendix A which has a vapor pressure <u>greater than of 0.1 mm Hg</u> (standard conditions of temperature and pressure); or
- (3) in the aggregate, emit to the air and release to POTWs any <u>chemical or</u> compound at or above the threshold listed in Appendix A.

The <u>reporting</u> threshold for <u>most of the chemicals and</u> compounds <u>listed in Appendix A</u> is 2000 lb./yr. except for a <u>small number of those chemicals and</u> compounds which have a lower <u>reporting</u> threshold as emphasized by the bold font <u>in the Appendix</u>. in Appendix A.

<u>PF.</u> If any one pollutant as specified in Section 1(B) is emitted at or above the minimum required reporting level, all the other pollutant data for all pollutants listed in Section 1(B) and 1(C) must be collected and reported.

2. Definitions

- **A.** AIRS/AFS: "AIRS/AFS" means the reference to the United States Environmental Protection Agency computerized database system called: Aerometric Information Retrieval System/ AIRS Facility Subsystem.
- **B**₂ Capture efficiency. "Capture efficiency" means the weight per unit time of VOC entering a capture system and delivered to a control device divided by the total weight per unit time of VOC generated by a source of VOC, expressed as a percentage.
- C. Control efficiency. "Control efficiency" means the actual total control efficiency achieved by the control device(s).
- **D.** Control equipment identification code. "Control equipment identification code" means the specific AIRS/AFS code which defines the equipment (such as a catalytic

- afterburner or carbon adsorber) used to reduce, by destruction or removal, the amount of air pollutant(s) in an air stream prior to discharge to the ambient air.
- **E.** Emission factor. "Emission factor" means an estimate of the rate at which a pollutant is released to the atmosphere as the result of some activity, divided by the rate of that activity (e.g. production rate or throughput).
- **F.** Estimated emissions method code. "Estimated emissions method code" means a one position AIRS/AFS code which identifies the estimation technique used in the calculation of estimated emissions.
- G. HAPs. "HAPs" mean hazardous air pollutants as defined in Chapter 100.
- **H.** Peak ozone season. "Peak ozone season" means that continuous 3 month period from June 1 through August 31 during which the highest ozone exceedance days typically occur.
- I. Plant. "Plant" means the total facilities available for production or service. Plant level information (e.g., address, latitude/longitude, SIC code) is a required component of emission statement reporting.
- <u>J.</u> Point. "Point" means a physical emission point (such as a boiler) or process (such as papercoating) within a plant that results in pollutant emissions. A unique identifier (point identification number) exists for each point within each facility in the AIRS database.
- A. Greenhouse gas. "Greenhouse gas" means those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the spectrum of infrared radiation emitted by the Earth's surface and clouds.
- **B.** HAPs. "HAPs" means hazardous air pollutants as defined in Chapter 100 of the Department's regulations.
- C. Landfill or solid waste landfill. "Landfill or solid waste landfill" means a discrete area of land or an excavation used for the disposal of solid waste. This term does not include land application sites used in programs approved by the Department.
- D. National Emissions Inventory (NEI). "National Emissions Inventory (NEI)" means the national emissions inventory characterizing emission of criteria and hazardous air pollutants that is maintained by the Emissions Factors and Inventory Group of EPA.
- **E. Peak ozone season.** "Peak ozone season" means that continuous 3 month period from June 1 through August 31 during which the highest ozone exceedance days typically occur.

- F. Publicly Owned Treatment Works (POTWs). "Publicly Owned Treatment Works (POTWs)" means facilities commonly known as sewage treatment plants which treat domestic sewage and industrial and commercial wastes received primarily through underground sewers.
- **LG. Process rate.** "Process rate" means quantity per unit time of any raw material or process intermediate consumed, or product generated through the use of any equipment, source operation, or process. For a stationary internal combustion unit or any other fuel burning equipment, this term means the quantity of fuel burned per unit time. For a waste treatment unit, this term means the quantity of solid waste treated per unit time.
- H. Segment. "Segment" means components of an emissions point or process, at the level that emissions are calculated. One example of a segment is a boiler burning #2 fuel oil. A unique identifier (segment identification number) exists for each segment within each point and plant in the AIRS database. Each segment is also identified by a SCC. Separate segment identifiers and corresponding SCCs would be required for each fuel type used in a multifueled boiler for example.
- I. SCC code. "SCC code" means Source Classification Code.
- H. Tons per year (TPY). "Tons per year (TPY)" means tons per year of actual emissions.
- I. Transmission and Distribution Plant. "Transmission and Distribution Plant" means all real estate, fixtures and personal property owned, controlled, operated or managed in connection with or to facilitate the transmission, distribution or delivery of electricity for light, heat or power for public use and includes all conduits, ducts and other devices, material, apparatus and property for containing, holding or carrying conductors used, or to be used, for the transmission or distribution of light, heat or power for public use.
- **PJ. Typical ozone season day.** "Typical ozone season day" means a day typical of that period of the year during the peak ozone season.

NOTE: SIC codes may be found in the latest "Standard Industrial Classification Manual," published by the U.S. Government Printing Office and available at larger libraries throughout the State.

3. Requirements.

A. The owner or operator of any facility meeting the applicability requirements in Section 1(B) must submit an emission statement to the Department on an annual basis for those pollutants listed in Section 1(B) and 1(C) of this Chapter. and every two years, for those compounds listed in Appendix A of this Chapter. The emission statement for 2002 emission data must be submitted no later than September 1, 2003 or 60 days counted from the date the forms are mailed from the Department,

whichever is earlier. for the previous calendar year, except that for the 1996 calendar year, the emission statement must be submitted no later than 60 days from the date the forms are mailed from the Department. For emissions data from 2003 and subsequent years, the emission statement must be submitted no later than February 28th of each year. Each source will have the option of submitting data shall submit the data in the specified format specified by the Department. on magnetic media.

- B. The owner or operator of any facility meeting the applicability requirements in Section 1(E) must submit an emission statement to the Department every three years, starting with 2002 emissions data, for those compounds subject to reporting in Section 1(E). The emission statement for 2002 emission data must be submitted no later than September 1, 2003 or 60 days from the date the forms are mailed from the Department, whichever is earlier. Subsequent emission statements must be submitted no later than February 28th of each respective reporting year. Each source shall submit the data in the format specified by the Department.
- C. The owner or operator of any facility meeting the applicability requirements in Section 1(D) must submit an emission statement to the Department on an annual basis for those pollutants described in Section 1(D) of this Chapter. For emissions data from 2003 and subsequent years, the emission statement must be submitted no later than February 28th of each year. Each source shall submit the data in the format specified by the Department.
- **4. Emission Statement.** The emission statements shall contain, at a minimum, the following information on a form prescribed by the Department:
 - **A.** Certification that the information contained in the statement is accurate and complete to the best knowledge of the individual certifying the statement. The certification shall include the full name, title, signature, date of signature, and telephone number of the responsible official.
 - **B.** Source identification information (where applicable):
 - (1) Full name, physical location, and mailing address of the facility,
 - (2) Latitude and longitude or Universal Transverse Mercator (UTM) coordinates (found on USGS topographical maps).
 - (3) SIC code(s),
 - (4) # of employees,
 - (5) Dun & Bradstreet #, and
 - (6) Maine Air License #, if applicable.
 - C. Operating information:
 - (1) Actual fuel use or industrial process rate data monthly and annually,

	(2) Days per week on the normal operating schedule,
	(3) Hours per day during the normal operating schedule, and
	(4) Weeks per year during the normal operating schedule.
Đ.	Point data:
	(1) Plume height or emission release height, if no well defined stack exists,
	(2) Stack height and diameter,
	(3) Exhaust temperature,
	(4) Flow rate,
	(5) Design capacity,
	(6) Exit velocity,
	(7) Boiler output used for heat (expressed as %), and
	(8) Distance to fence line (shortest).
E.	Fuel parameters:
	(1) Sulfur content (%),
	(2) Ash content (%),
	(3) Heat content (BTU/unit),
	(4) Fuel consumption (thousands of gallons of fuel oil; tons of coal or wood, etc) monthly and annually,
	(5) Type of combustion units used, and
	(6) Fuel type.
F.	Process parameters:
	(1) Type of process unit (printing press, coating line, bulk storage tank, lime kiln, incinerator, etc.),
	(2) Design rate of unit, and
	(3) Processed, produced, or stored amount (i.e. tons of solvent, material, waste, ink;

G. Control equipment information:

- (1) Current primary and secondary AIRS/AFS control equipment and corresponding AIRS/AFS control equipment identification codes,
- (2) Current control equipment efficiency (expressed as %). The actual efficiency should reflect the total control efficiency from all control equipment and include downtime and maintenance degradation. If the actual control efficiency is unavailable, the design efficiency or the control efficiency limit imposed by a permit should be used, and
- (3) Capture efficiency (expressed as %). This is a measure of the volume of pollutant captured or recovered relative to the volume of pollutant generated.

H. Emissions information:

- (1) For the pollutants specified in Section 1(B),
 - (a) Estimated emissions calculated by the facility or the Department based on actual process rate at the segment level, in tons per year for an annual emission rate and pounds per day for a typical ozone season day. Actual emission estimates must include upsets, downtime and fugitive emissions, and must follow an "emission estimation method" that is approved by the Department,
 - (b) AFS estimated emissions method code,
 - (c) Calendar year for the emissions,
 - (d) Emission Factor (if emissions were calculated using an emission factor),
 - (e) Stack test data if indicative of normal operating conditions, and
 - (f) Material balance data if used to estimate emissions.

B. Inventory Time Frame

(1) Inventory year – Calendar year for which emissions estimates are calculated;

C. Source Identification Information (where applicable)

- (1) State FIPS code The Federal Information Placement System (FIPS) is the system of unique numeric codes the government developed to identify States, counties and parishes for the entire United States, Puerto Rico and Guam.
- (2) County FIPS code The Federal Information Placement System (FIPS) is the system of unique numeric codes the government developed to identify States, counties and parishes for the entire United States, Puerto Rico and Guam.

- (3) Facility ID code The unique code for a facility that is generated by the Department.
- (4) Point ID code The unique code for the point of generation of emissions that is generated by the Department.
- (5) Process ID code The unique code for the process generating emissions that is generated by the Department.
- (6) Stack ID code The unique code for a stack or release point of emissions into the atmosphere that is generated by the Department.
- (7) Site Name The name of facility as it appears on its air emission license or if unlicensed, the name of the facility as identified by the Bureau of Taxation.
- (8) Physical Address The street address for the facility where emissions occur. This must be the E911 address, when available.
- (9) Mailing Address of the facility.
- (10) SIC/NAICS The Standard Industrial Classification Code/North American Industry Classification System (to replace SIC).

D. Operating Information

- (1) SCC (Source classification code) The process level code that describes the equipment or operation which is emitting pollutants.
- (2) PCC (Process classification code) The replacement for SCC.
- (3) Start time (hour) The start time (if available) that was used to calculate the emissions estimates.
- (4) Operating Schedule (Hours/Day) The hours per day that the emitting process operates, averaged over the inventory period.
- (5) Operating Schedule (Days/Week) The days per week that the emitting process operates, averaged over the inventory period.
- (6) Operating Schedule (Weeks/Year) The weeks per year that the emitting process operates, averaged over the inventory period.
- (7) Activity/throughput data A measurable factor or parameter that relates directly or indirectly to the emissions of an air pollution source. Depending on the type of source category, activity information may refer to the amount of fuel combusted, raw material processed, product manufactured, or material handled or processed.

- (a) Activity/throughput (annual) The total annual throughput.
- (b) Activity/throughput (monthly) The throughput on a monthly basis.
- (c) Activity/throughput (daily) An estimate of the daily average throughput, including the beginning and ending dates and times that define the emissions period used to estimate the daily activity rate/throughput.
- (d) Spring Throughput % March, April, and May of inventory period.
- (e) Summer Throughput % June, July and August of inventory period.
- (f) Fall Throughput % September, October, and November of inventory period.
- (g) Winter Throughput % December, January, and February of inventory period.

E. Release Point Data

- (1) Latitude and Longitude or Universal Transverse Mercator (UTM) coordinates of stack or release point.
- (2) Stack or release point height The height above the surrounding terrain.
- (3) Stack or release point diameter The inner physical diameter.
- (4) Exit gas temperature (maximum license allowed) The numeric value of an exit gas stream's temperature.
- (5) Exit gas flow rate (maximum license allowed) The numeric value of an exit gas's flow rate.
- (6) Exit gas velocity (maximum license allowed) The numeric value of an exit gas stream's velocity.

F. Fuel and Process Parameters

- (1) Heat Content (annual average of fuel) The amount of thermal heat energy in the fuel.
- (2) Sulfur Content (annual average of fuel) The sulfur content of the fuel, expressed in %.
- (3) Ash Content (annual average of fuel) The inert residual portion of the fuel.
- (4) Activity Throughput A measurable factor or parameter that relates directly or indirectly to the emissions of an air pollution source. The units are dependent on source category or report on monthly basis:

(a) Fuel parameters:

- (1) Fuel type.
- (2) Type of combustion units used.
- (3) Fuel consumption (thousands of gallons of fuel oil; tons of coal or wood, etc.) monthly and annually.

(b) Process parameters:

- (1) Design Capacity The measure of the size of a point source, based on the reported maximum continuous capacity of the unit.
- (2) Maximum nameplate capacity The measure of a unit's size that the manufacturer put on the unit's nameplate.

G. Emissions Information

- (1) Pollutant Code The unique code for each reported pollutant assigned in the Emission Inventory Improvement Program (EIIP) Data Model.
- (2) Primary Control Device Description The name of the type of control device (primary).
- (3) Primary Control Device Efficiency (%) The percent efficiency of removing pollutant, expressed as a percentage for primary control.
- (4) Secondary Control Device Description The name of the type of control device (secondary).
- (5) Secondary Control Device Efficiency (%) The percent efficiency of removing pollutant, expressed as a percentage for secondary control.
- (6) Emission Factor The ratio relating emissions of a specific pollutant to an activity or material throughput level.
- (7) Annual Emission The actual emissions for a facility, point or process measured or calculated that represent a calendar year.
- (8) Emission Calculation Method Code A 2-digit field which further describes the types of emissions being reported and/or on what the emission factors were based. For example, whether or not CEMS, stack tests, material balances or emission factors were used in the calculations or estimates.

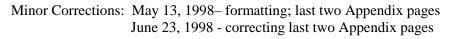
H. Emissions Estimation Approaches

- (1) Air emissions reported to the Department pursuant to this Chapter shall be quantified/estimated in the manner which most accurately reflects actual emissions, as follows:
 - (a) where specification CEM/PEMS monitoring systems have been required by statute, regulation, or license condition, emission data generated by these systems shall serve as the basis for emissions reported pursuant to this Chapter;
 - (b) in the absence of a specification CEM/PEMS monitoring system, and where reference method emission testing that has been deemed by the Department to be representative of normal operating conditions has been performed within the emission reporting period, emission data from such testing shall serve as the basis for estimating emissions reported to the Department pursuant to this Chapter;
 - (c) in the absence of a specification CEM/PEMS monitoring system and reference method emission testing, emissions reported pursuant to this Chapter may be estimated and reported on the basis of a facility-specific emission factor approved by the Department; and
 - (d) in the absence of a specification CEM/PEMS monitoring system and reference method emission testing, emissions reported pursuant to this Chapter may be estimated and reported on the basis of EPA-published emission factors.
- (2) For the chemicals and compounds listed in Appendix A.
 - (a) For each chemical <u>or compound</u> used, processed, or manufactured, estimated actual emissions to air, and POTWs of that chemical <u>or compound</u>, at the <u>plant facility</u> level, in pounds per year,
 - (b) Any methods used for hazardous air pollutant emissions estimation must be approved by DEP the Department. *De minimis* exemptions allowed by EPA for reporting to the Toxics Release Inventory, i.e. 1.0 percent, or 0.1 percent if the toxic chemical meets the OSHA carcinogen standard, are acceptable,
 - (c) If stack test and/or material balance data are used to estimate hazardous air pollutant emissions, these data must be supplied to the DEP Department upon request, and
 - (d) For the purposes of reporting dioxin and dioxin like compounds, if the total of dioxin and dioxin like compounds is over the 0.001 pound threshold, the facility must report the quantities of the individual dioxin and dioxin like compounds.

AUTHORITY 38 M.R.S.A., Section 585-A, 585-C

EFFECTIVE DATE: December 12, 1993 Amended: November 2, 1997

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Amended:

BASIS STATEMENT

In Maine, nine counties are classified as nonattainment for the federal ozone air quality standard. This regulation requires volatile organic compounds (VOC) and nitrogen oxides (NOx) data which is required by the U.S. Environmental Protection Agency for those States that have nonattainment areas for ozone. Reporting of other criteria pollutant data, i.e. carbon monoxide, sulfur dioxide, fine particulate matter, and lead is also required under this rule. In addition, this rule requires the reporting of 189 hazardous air pollutants identified by the Clean Air Act Amendments and other compounds known to be emitted in Maine that are of concern to human health.

In addition to the Basis Statement above, the Department has filed with the Secretary of State responses to comments received during the comment period.

BASIS STATEMENT FOR 1997 AMENDMENT

38 MRSA § 585-C Statute (38 MRSA è 585-C) requires the State to gather Hazardous Air Pollutant Emission Statements no more frequently than every 2 years. This amendment implements that requirement in this rule. Report requirements have been reduced and several compounds have been de-listed from the rule.

In addition to the Basis Statement above, the Department has filed with the Secretary of State responses to comments received during the comment period.

APPENDIX A CHAPTER 137 EMISSION STATEMENTS

THRESHOLD FOR REPORTING IS 2000 POUNDS UNLESS LESSER AMOUNT IS SPECIFIED IN BOLD FONT IN RIGHT COLUMN.

CASNUM	POLLUTANT	lbs
0075070	ACETALDEHYDE	200
0060355	ACETAMIDE	200
0108247	ACETIC ANHYDRIDE	
0067641	ACETONE	
0075058	ACETONITRILE	
0098862	ACETOPHENONE	
0053963	2-ACETYLAMINOFLUORENE	
0107028	ACROLEIN	
0079061	ACRYLAMIDE	<u>200</u>
0079107	ACRYLIC ACID	
0107131	ACRYLONITRILE	<u>200</u>
0107051	ALLYL CHLORIDE	
ALUMCOMP		
0092671	4-AMINOBIPHENYL	
7664417	AMMONIA	
0062533	ANILINE	<u>200</u>
0090040	O-ANISIDINE	
ANTICOMP		
ARSECOMP	ARSENIC & ARSENIC COMPOUNDS (ALSO	200
1000014	INORGANIC ARSINE)	• • • •
1332214	ASBESTOS	200
BARICOMP	BARIUM & BARIUM COMPOUNDS	200
0071432	BENZENE	200
0092875	BENZIDINE BENZOTRICHI ORDE	<u>200</u>
0098077	BENZOTRICHLORIDE BENZOL INVIDENTE	<u>200</u>
0262384	BENZO(a)PYRENE	<u>200</u>
<u>191242</u>	BENZO(g,h,I)PERYLENE	200
0100447	BENZYL CHLORIDE	<u>200</u>
BERYCOMP	BERYLLIUM & BERYLLIUM COMPOUNDS BIPHENYL	<u>200</u>
0092524 0117817	BIS(2-ETHYLHEXYL) PHTHALATE	200
542881	BIS(CHLOROMETHYL) ETHER	200
0075252	BROMOFORM	200
0106990	1,3-BUTADIENE	$\frac{200}{200}$
0071363	N-BUTANOL	<u> 200</u>
0123864	N-BUTYL ACETATE	
75650	TERT-BUTYL ALCOHOL	
CADMCOMP	CADMIUM & CADMIUM COMPOUNDS	200
0156627	CALCIUM CYANAMIDE	200
0133062	CAPTAN	
0063252	CARBARYL	

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CASNUM	POLLUTANT	lbs
0075150	CARBON DISULFIDE	
0056235	CARBON TETRACHLORIDE	200
0463581	CARBONYL SULFIDE	
0120809	CATECHOL	
0133904	CHLORAMBEN	
0057749	CHLORDANE	200
7782505	CHLORINE	
10049044	CHLORINE DIOXIDE	
0079118	CHLOROACETIC ACID	
0532274	2-CHLOROACETOPHENONE	
0108907	CHLOROBENZENE	
0510156	CHLOROBENZILATE	
0067663	CHLOROFORM	200
0107302	CHLOROMETHYL METHYL ETHER	200
0126998	CHLOROPRENE	
CHROCOMP	HEXAVALENT CHROMIUM & CHROMIUM	10
CODACOMD	COMPOUNDS COBALT & COBALT COMPOUNDS	
COBACOMP COKOVEEM		200
	COPPER & COPPER COMPOUNDS	<u>200</u>
COPPCOMP		
0095487	O-CRESOL M-CRESOL	
0108394 0106445	P-CRESOL	
	CRESOLS/CRESYLIC ACID	
1319773 0098828	CUMENE	
CYANCOM	CYANIDE COMPOUNDS	
110827	CYCLOHEXANE	
0094757	2,4-D, SALTS AND ESTERS	
3547044	DDE	
0334883	DIAZOMETHANE	
0132649	DIBENZOFURAN	
0096128	1,2-DIBROMO-3-CHLOROPROPANE	
0084742	DIBUTYLPHTHALATE	
0106467	1,4-DICHLOROBENZENE	
0095501	1,2-DICHLOROBENZENE	
0093901	3,3-DICHLOROBENZIDINE	200
0111444	DICHLOROETHYL ETHER	<u>200</u>
0542756	1,3-DICHLOROPROPENE	<u>200</u>
0062737	DICHLOROVOS	200 200
0111422	DIETHANOLAMINE	200
0121697	N, N-DIETHYL ANILINE	
0064675	DIETHYL SULFATE	
DIISCOMP	DIISOCYNATES	
0119904	3,3-DIMETHOXYBENZIDINE	
0060117	DIMETHYL AMINOAZOBENZENE	
0119937	3,3'-DIMETHYL BENZIDINE	
0079447	DIMETHYL CARBOMOYL CHLORIDE	
30.7.11		

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CASNUM	POLLUTANT	lbs
0068122	DIMETHYL FORMAMIDE	
0057147	1,1-DIMETHYL HYDRAZINE	
0131113	DIMETHYL PHTHALATE	
0077781	DIMETHYL SULFATE	200
0534521	4,6-DINITRO-O-CRESOL	
0051285	2,4-DINITROPHENOL	
0121142	2,4-DINITROTOLUENE	<u>200</u>
0123911	1,4-DIOXANE	200
DIOXCOMP	DIOXIN & DIOXIN LIKE COMPOUNDS*	0.001
0122667	1,2-DIPHENYLHYDRAZINE	200
0106898	EPICHLOROHYDRIN	200
0106887	1,2-EPOXYBUTANE	
0141435	ETHANOLAMINE	
0110805	2-ETHOXYETHANOL	
0141786	ETHYL ACETATE	
0140885	ETHYL ACRYLATE	
0100414	ETHYL BENZENE	
0051796	ETHYL CARBAMATE (URETHANE)	
0075003	ETHYL CHLORIDE (CHLOROETHANE)	
0106934	ETHYLENE DIBROMIDE (DIBROMOMETHANE)	
0107062	ETHYLENE DICHLORIDE (1,2-	
	DICHLOROETHANE)	
0107211	ETHYLENE GLYCOL	
0151564	ETHYLENE IMINE (AZIRIDINE)	
0075218	ETHYLENE OXIDE	
0096457	ETHYLENE THIOUREA	
0075343	ETHYLIDINE DICHLORIDE	
FINMINFI	FINE MINERAL FIBERS	
0050000	FORMALDEHYDE	200
0064186	FORMIC ACID	
0076131	FREON 113 (TRICHLOROTRIFLUROETHANE)	
0098011	FURFURAL	
GLYCETHE	GLYCOL ETHERS	
0076448	HEPTACHLOR	<u>200</u>
0118741	HEXACHLOROBENZENE	<u>200</u>
0087683	HEXACHLOROBUTADIENE	
0077474	HEXACHLOROCYCLOPENTADIENE	
0067721	HEXACHLOROETHANE	
0822060	HEXAMETHYLENE-1,6-DIISOCYNATE	
0680319	HEXAMETHYLPHOSPHORAMIDE	
0110543	HEXANE	
0302012	HYDRAZINE	<u>200</u>
7647010	HYDROCHLORIC ACID (acid aerosol only)	
7664393	HYDROGEN FLOURIDE (HYDROFLOURIC ACID)	
7783064	HYDROGEN SULFIDE	
0123319	HYDROQUINONE	
0078591	ISOPHORONE	

0067630 ISOPROPYL ALCOHOL (used in strong acid manufacturing. processes) LEADCOMP LEAD & LEAD COMPOUNDS 200 0058899 LINDANE 0108316 MALEIC ANHYDRIDE MANGCOMP MANGANESE & MANGANESE COMPOUNDS MERCCOMP MERCURY & MERCURY COMPOUNDS 10 0067561 METHANOL 0072435 METHOXYCHLOR 0109864 2-METHOXYETHANOL
LEAD & LEAD & COMPOUNDS 0058899 LINDANE 0108316 MALEIC ANHYDRIDE MANGCOMP MANGANESE & MANGANESE COMPOUNDS MERCCOMP MERCURY & MERCURY COMPOUNDS 0067561 METHANOL 0072435 METHOXYCHLOR
0058899 LINDANE 0108316 MALEIC ANHYDRIDE MANGCOMP MANGANESE & MANGANESE COMPOUNDS MERCCOMP MERCURY & MERCURY COMPOUNDS 0067561 METHANOL 0072435 METHOXYCHLOR
0108316 MALEIC ANHYDRIDE MANGCOMP MANGANESE & MANGANESE COMPOUNDS MERCCOMP MERCURY & MERCURY COMPOUNDS 0067561 METHANOL 0072435 METHOXYCHLOR
MANGCOMP MANGANESE & MANGANESE COMPOUNDS MERCCOMP MERCURY & MERCURY COMPOUNDS 0067561 METHANOL 0072435 METHOXYCHLOR
MERCCOMP MERCURY & MERCURY COMPOUNDS 0067561 METHANOL 0072435 METHOXYCHLOR
0067561 METHANOL 0072435 METHOXYCHLOR
0072435 METHOXYCHLOR
0109864 2-METHOXYETHANOL
0096333 METHYL ACRYLATE
0074839 METHYL BROMIDE (BROMOMETHANE)
0074873 METHYL CHLORIDE
0071556 METHYL CHLOROFORM (1,1,1-
TRICHLOROETHANE)
0078933 METHYL ETHYL KETONE (2-BUTANONE)
0060344 METHYL HYDRAZINE
0074884 METHYL IODIDE (IODOMETHANE)
0108101 METHYL ISOBUTYL KETONE
0624839 METHYL ISOCYANATE
0074931 METHYL MERCAPTAN
0080626 METHYL METHACRYLATE
872504 N-METHYL-2-PYRROLIDONE
1634044 METHYL TERT BUTYL ETHER
0101144 4,4-METHYLENE BIS(2-CHLOROANILINE) 200
0075092 METHYLENE CHLORIDE 200
(DICHLOROMETHANE) 0101688 METHYLENE DIPHENYL DIISOCYANATE
1313275 MOLYBDENUM TRIOXIDE 0101779 4,4'-METHYLENEDIANILINE
0101779 4,4'-METHYLENEDIANILINE 0091203 NAPTHALENE
NICKCOMP NICKEL & NICKEL COMPOUNDS 200
7697372 NITRIC ACID
0098953 NITROBENZENE
0092933 4-NITROBIPHENYL
0100027 4-NITROPHENOL
0079469 2-NITROPROPANE
0684935 N-NITROSO-N-METHYLUREA
0062759 N-NITROSODIMETHYLAMINE
0059892 N-NITROSOMORPHOLINE
0144627 OXALIC ACID
0056382 PARATHION
0082688 PENTACHLORONITROBENZENE
(QUINTOBENZENE)
0087865 PENTACHLOROPHENOL 200
0108952 PHENOL
0106503 P-PHENYLENDIAMINE

CASNUM	POLLUTANT	lbs
0075445	PHOSGENE	
7803512	PHOSPHINE	
7723140	PHOSPHORUS	
0085449	PHTHALIC ANHYDRIDE	
1336363	POLYCHLORINATED BIPHENYLS	10
POLORGMA	POLYCYCLIC ORGANIC MATTER	_
1120714	1,3-PROPANE SULTONE	
0057578	BETA-PROPIOLACETONE	
0123386	PROPIONALDEHYDE	
0114261	PROPOXUR (BAYGON)	
0078875	PROPYLENE DICHLORIDE (1,2-	
	DICHLOROPROPANE)	
0075569	PROPYLENE OXIDE	200
0075558	1,2-PROPYLENIMINE (2-METHYL AZIRIDINE)	
0091225	QUINOLINE	
0106514	QUINONE	
RADIONUC	RADIONUCLIDES (INCLUDING RADON)	
SELECOMP	SELENIUM & SELENIUM COMPOUNDS	
0100425	STYRENE	
0096093	STYRENE OXIDE	
7664939	SULFURIC ACID (acid aerosol only)	
1746016	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN &	0.001
	CONGENERS	
0079345	1,1,2,2-TETRACHLOROETHANE	
0127184	TETRACHLOROETHYLENE	200
	(PERCHLOROETHYLENE)	
0109999	TETRAHYDROFURAN	
13463677	TITANIUM DIOXIDE (TITANIUM OXIDE)	
7550450	TITANIUM TETRACHLORIDE	
0108883	TOLUENE	
0095807	2,4-TOLUENE DIAMINE	
0584849	2,4-TOLUENE DIISOCYANATE	
0095534	O-TOLUIDINE	
8001352	TOXAPHENE (CHLORINATED CAMPHENE)	<u>200</u>
0120821	1,2,4-TRICHLOROBENZENE	
0079005	1,1,2-TRICHLOROETHANE	
0079016	TRICHLOROETHYLENE	200
0088062	2,4,6-TRICHLOROPHENOL	<u>200</u>
0095954	2,4,5-TRICHLOROPHENOL	
0121448	TRIETHYLAMINE	
1582098	TRIFLURALIN	
<u>95636</u>	1,2,4 TRIMETHYL BENZENE	
0540841	2,2,4-TRIMETHYLPENTANE	
8006642	TURPENTINE	
<u>VANCOMP</u>	<u>VANADIUM COMPOUNDS</u>	
0108054	VINYL ACETATE	
0593602	VINYL BROMIDE	

CASNUM	POLLUTANT	lbs
0075014	VINYL CHLORIDE	
0075354	VINYLIDENE CHLORIDE (1,1-	
	DICHLOROETHYLENE)	
0106423	P-XYLENES	
0095476	O-XYLENES	
0108383	M-XYLENES	
1330207	XYLENES (ISOMERS & MIXTURE)	
ZINCCOMP	ZINC & ZINC COMPOUNDS	

*For purposes of this rule, "Dioxin and Dioxin Like Compounds" means specific compounds in the following chemical classes that are "dioxin-like": polychlorinated dibenzo-p-dioxins (PCDDs or CDDs), polychlorinated dibenzofurans (PCDFs or CDFs), polybrominated dibenzo-pdioxins (PBDDs or BDDs), polybrominated dibenzofurans (PBDFs or BDFs), and polychlorinated biphenyls (PCBs). "Dioxin-like" means those compounds that have a similar chemical structure and similar physical-chemical properties as 2,3,7,8 tetrachlorodibenzo-pdioxin, and therefore induce a similar toxic response. Because of their hydrophobic nature and resistance towards metabolism, these chemicals persist and bioaccumulate in fatty tissues of animals and humans. The 7 dioxin like CDDs, 7 dioxin like BDDs, 10 dioxin like CDFs and 10 dioxin like BDFs are the congeners that have chlorine/bromine substitutions in, at a minimum, the 2, 3, 7, and 8 positions. Additionally, 13 PCB congeners have dioxin-like toxicity; these are PCBs with 4 or more lateral chlorines with 1 or no substitution in the ortho position. These compounds are sometimes referred to as coplanar, meaning that they can assume a flat configuration with rings in the same plane. Mixed chlorinated and brominated congeners of dioxins, furans, and biphenyls may also meet the definition of dioxin-like. "Dioxin and Dioxin Like Compounds" includes the following specific dioxin congeners, furan congeners, and dioxin like PCBs:

Chemical notation	Isomer Groups	Reference Number
	Dioxin Congeners	
2,3,7,8-TCDDs	The isomers of tetrachlorodibenzo-p-dioxin with	
	chlorine substitutions in the 2,3,7,8 positions	
1,2,3,7,8-PeCDDs	The isomers of pentachlorodibenzo-p-dioxin with	
	chlorine substitutions in the 1,2,3,7,8 positions	
1,2,3,4,7,8-HxCDDs	The isomers of hexachlorodibenzo-p-dioxin with	
	chlorine substitutions in the 2,3,7,8 positions	
1,2,3,6,7,8-HxCDDs	The isomers of hexachlorodibenzo-p-dioxin with	
	chlorine substitutions in the 1,2,3,6,7,8 positions	
1,2,3,7,8,9-HxCDDs	The isomers of hexachlorodibenzo-p-dioxin with	
	chlorine substitutions in the 1,2,3,7,8,9 positions	
1,2,3,4,6,7,8-HpCDDs	The isomers of heptachlorodibenzo-p-dioxin with	
	chlorine substitutions in the 1,2,3,4,6,7,8 positions	
OCDDs	The isomers of octachlorodibenzo-p-dioxin with	
	chlorine substitutions in any position.	

	Furan Congeners	
2,3,7,8-TCDFs	The isomers of tetrachlorodibenzofuran with	
	chlorine substitutions in the 2,3,7,8 positions	
1,2,3,7,8-PeCDFs	The isomers of pentachlorodibenzofuran with	
2,3,4,7,8-PeCDFs	chlorine substitutions in the 1,2,3,7,8 positions The isomers of pentachlorodibenzofuran with	
2,3,4,7,0-1 CCD1 s	chlorine substitutions in the 2,3,4,7,8 positions	
1,2,3,4,7,8-HxCDFs	The isomers of hexachlorodibenzofuran with	
	chlorine substitutions in the 1,2,3,4,7,8 positions	
1,2,3,6,7,8-HxCDFs	The isomers of hexachlorodibenzofuran with	
1,2,3,7,8,9-HxCDFs	chlorine substitutions in the 1,2,3,6,7,8 positions The isomers of hexachlorodibenzofuran with	
1,2,3,7,0,7-11ACD13	chlorine substitutions in the 1,2,3,7,8,9 positions	
2,3,4,6,7,8-HxCDFs	The isomers of hexachlorodibenzofuran with	
	chlorine substitutions in the 2,3,4,6,7,8 positions	
1,2,3,4,6,7,8-HpCDFs	The isomers of heptachlorodibenzofuran with	
1,2,3,4,7,8,9-HpCDFs	chlorine substitutions in the 1,2,3,4,6,7,8 positions The isomers of heptachlorodibenzofuran with	
1,2,5,4,7,0,7-11pCD13	chlorine substitutions in the 1,2,3,4,7,8,9 positions	
OCDFs	The isomers of octachlorodibenzofuran with	
	chlorine substitutions in any position	
	Dioxin Like PCBs	IUPAC** Number
3,3',4,4'-TeCB	tetrachlorinated biphenyls with chlorine substituted	PCB-77
0,0,.,. 1002	in the 3,3',4,4' positions	102 ,,
3,4,4',5-TCB	1 ,	PCB-81
		102 01
0.0.01.4.41.D. CD	in the 33,4,4',5 positions	
2,3,3',4,4'-PeCB	pentachlorinated biphenyls with chlorine substituted	
	pentachlorinated biphenyls with chlorine substituted in the 2,3,3',4,4' positions	PCB-105
2,3,3',4,4'-PeCB 2,3,4,4',5-PeCB	pentachlorinated biphenyls with chlorine substituted	PCB-105
	pentachlorinated biphenyls with chlorine substituted in the 2,3,3',4,4' positions pentachlorinated biphenyls with chlorine substituted in the 2,3,4,4',5 positions pentachlorinated biphenyls with chlorine substituted	PCB-105 PCB-114
2,3,4,4',5-PeCB 2,3',4,4',5-PeCB	pentachlorinated biphenyls with chlorine substituted in the 2,3,3',4,4' positions pentachlorinated biphenyls with chlorine substituted in the 2,3,4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 2,3',4,4',5 positions	PCB-105 PCB-114 PCB-118
2,3,4,4',5-PeCB	pentachlorinated biphenyls with chlorine substituted in the 2,3,3',4,4' positions pentachlorinated biphenyls with chlorine substituted in the 2,3,4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 2,3',4,4',5 positions pentachlorinated biphenyls with chlorine substituted	PCB-105 PCB-114 PCB-118
2,3,4,4',5-PeCB 2,3',4,4',5-PeCB 2',3,4,4',5-PeCB	pentachlorinated biphenyls with chlorine substituted in the 2,3,3',4,4' positions pentachlorinated biphenyls with chlorine substituted in the 2,3,4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 2,3',4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 2',3,4,4',5 positions	PCB-105 PCB-114 PCB-118 PCB-123
2,3,4,4',5-PeCB 2,3',4,4',5-PeCB	pentachlorinated biphenyls with chlorine substituted in the 2,3,3',4,4' positions pentachlorinated biphenyls with chlorine substituted in the 2,3,4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 2,3',4,4',5 positions pentachlorinated biphenyls with chlorine substituted	PCB-105 PCB-114 PCB-118 PCB-123
2,3,4,4',5-PeCB 2,3',4,4',5-PeCB 2',3,4,4',5-PeCB	pentachlorinated biphenyls with chlorine substituted in the 2,3,3',4,4' positions pentachlorinated biphenyls with chlorine substituted in the 2,3,4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 2,3',4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 2',3,4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 3,3',4,4',5 positions hexachlorinated biphenyls with chlorine substituted	PCB-105 PCB-114 PCB-118 PCB-123 PCB-126
2,3,4,4',5-PeCB 2,3',4,4',5-PeCB 2',3,4,4',5-PeCB 3,3',4,4',5-PeCB 2,3,3',4,4',5-HxCB	pentachlorinated biphenyls with chlorine substituted in the 2,3,3',4,4' positions pentachlorinated biphenyls with chlorine substituted in the 2,3,4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 2,3',4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 2',3,4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 3,3',4,4',5 positions hexachlorinated biphenyls with chlorine substituted in the 2,3,3',4,4',5 positions	PCB-105 PCB-114 PCB-118 PCB-123 PCB-126 PCB-156
2,3,4,4',5-PeCB 2,3',4,4',5-PeCB 2',3,4,4',5-PeCB 3,3',4,4',5-PeCB	pentachlorinated biphenyls with chlorine substituted in the 2,3,3',4,4' positions pentachlorinated biphenyls with chlorine substituted in the 2,3,4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 2,3',4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 2',3,4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 3,3',4,4',5 positions hexachlorinated biphenyls with chlorine substituted in the 2,3,3',4,4',5 positions hexachlorinated biphenyls with chlorine substituted in the 2,3,3',4,4',5 positions	PCB-105 PCB-114 PCB-118 PCB-123 PCB-126 PCB-156
2,3,4,4',5-PeCB 2,3',4,4',5-PeCB 2',3,4,4',5-PeCB 3,3',4,4',5-PeCB 2,3,3',4,4',5-HxCB 2,3,3',4,4',5'-HxCB	pentachlorinated biphenyls with chlorine substituted in the 2,3,3',4,4' positions pentachlorinated biphenyls with chlorine substituted in the 2,3,4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 2,3',4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 2',3,4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 3,3',4,4',5 positions hexachlorinated biphenyls with chlorine substituted in the 2,3,3',4,4',5 positions hexachlorinated biphenyls with chlorine substituted in the 2,3,3',4,4',5 positions	PCB-105 PCB-114 PCB-118 PCB-123 PCB-126 PCB-156 PCB-157
2,3,4,4',5-PeCB 2,3',4,4',5-PeCB 2',3,4,4',5-PeCB 3,3',4,4',5-PeCB 2,3,3',4,4',5-HxCB	pentachlorinated biphenyls with chlorine substituted in the 2,3,3',4,4' positions pentachlorinated biphenyls with chlorine substituted in the 2,3,4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 2,3',4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 2',3,4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 3,3',4,4',5 positions hexachlorinated biphenyls with chlorine substituted in the 2,3,3',4,4',5 positions hexachlorinated biphenyls with chlorine substituted in the 2,3,3',4,4',5 positions	PCB-105 PCB-114 PCB-118 PCB-123 PCB-126 PCB-156 PCB-157
2,3,4,4',5-PeCB 2,3',4,4',5-PeCB 2',3,4,4',5-PeCB 3,3',4,4',5-PeCB 2,3,3',4,4',5-HxCB 2,3,3',4,4',5'-HxCB	pentachlorinated biphenyls with chlorine substituted in the 2,3,3',4,4' positions pentachlorinated biphenyls with chlorine substituted in the 2,3,4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 2,3',4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 2',3,4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 3,3',4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 2,3,3',4,4',5 positions hexachlorinated biphenyls with chlorine substituted in the 2,3,3',4,4',5' positions hexachlorinated biphenyls with chlorine substituted in the 2,3',4,4',5,5' positions hexachlorinated biphenyls with chlorine substituted in the 2,3',4,4',5,5' positions	PCB-105 PCB-114 PCB-118 PCB-123 PCB-126 PCB-156 PCB-157
2,3,4,4',5-PeCB 2,3',4,4',5-PeCB 2',3,4,4',5-PeCB 3,3',4,4',5-PeCB 2,3,3',4,4',5-HxCB 2,3,3',4,4',5'-HxCB 2,3',4,4',5,5'-HxCB 3,3',4,4',5,5'-HxCB	pentachlorinated biphenyls with chlorine substituted in the 2,3,3',4,4' positions pentachlorinated biphenyls with chlorine substituted in the 2,3,4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 2,3',4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 2',3,4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 3,3',4,4',5 positions hexachlorinated biphenyls with chlorine substituted in the 2,3,3',4,4',5 positions hexachlorinated biphenyls with chlorine substituted in the 2,3,3',4,4',5' positions hexachlorinated biphenyls with chlorine substituted in the 2,3',4,4',5,5' positions hexachlorinated biphenyls with chlorine substituted in the 3,3',4,4',5,5' positions	PCB-105 PCB-114 PCB-118 PCB-123 PCB-126 PCB-156 PCB-157 PCB-167 PCB-169
2,3,4,4',5-PeCB 2,3',4,4',5-PeCB 2',3,4,4',5-PeCB 3,3',4,4',5-PeCB 2,3,3',4,4',5-HxCB 2,3,3',4,4',5'-HxCB 2,3',4,4',5,5'-HxCB	pentachlorinated biphenyls with chlorine substituted in the 2,3,3',4,4' positions pentachlorinated biphenyls with chlorine substituted in the 2,3,4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 2,3',4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 2',3,4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 3,3',4,4',5 positions pentachlorinated biphenyls with chlorine substituted in the 2,3,3',4,4',5 positions hexachlorinated biphenyls with chlorine substituted in the 2,3,3',4,4',5' positions hexachlorinated biphenyls with chlorine substituted in the 2,3',4,4',5,5' positions hexachlorinated biphenyls with chlorine substituted in the 2,3',4,4',5,5' positions	PCB-105 PCB-114 PCB-118 PCB-123 PCB-126 PCB-156 PCB-157 PCB-167 PCB-169

** International Union of Pure and Applied Chemistry (http://iupac.chemsoc.org/general/about.html)

Reference: Draft Final Report: Exposure and Human Health Reassessment of 2,3,7,8-Tetrachlorodibenzo-*p*-Dioxin (TCDD) and Related Compounds, Part I: Estimating Exposure to Dioxin-Like Compounds, Volume 2: Sources of Dioxin-Like Compounds in the United States (Exposure Assessment and Risk Characterization Group, National Center for Environmental Assessment - Washington Office, Office of Research and Development, U.S. Environmental Protection Agency, Washington, DC; EPA/600/P-00/001Bb; www.epa.gov/ncea; Http://www.epa.gov/ncea/pdfs/dioxin/part1/volume2/volume2.pdf) September 2000.